THE HISTORY OF THE ARCHITECTURE MACHINE GROUP
—the subject of a fully-realized “networked book”

In January 2005, the Institute for the Future of the Book coined the term “networked book” to refer to an online, collaboratively authored book. In August 2005, Institute researcher Kim White delivered a paper regarding the Institute’s first experiment in creating a networked book and wrote a wikipedia entry with a full description of the concept.

Recently, Kazys Varnelis, a senior fellow at the Annenberg Center at USC proposed the idea of attempting a thoroughly realized networked book on the history of the Architecture Machine Group at MIT.

Background and Context of the Architecture Machine Group

Founded in October 1967 by Nicholas Negroponte, the Architecture Machine Group pioneered innovations in spatial interface design now widely adopted for the modern graphic user interface. This project sets out to document the Architecture Machine Group and put it in its social, cultural, and theoretical context while doing so within the medium of a networked book. As we enter the second decade of the mass acceptance of the Internet, the third decade of the personal computer, and the sixth decade of the computer, the history of digital culture remains largely unwritten. This project sets out to address a key institution in that history. In particular, we are interested in how the Architecture Machine Group sought to replace the command line interface with a spatial interface, an innovation that anticipates the networked book’s transition from static pages read in a linear fashion to collaborative sites readable in both linear and nonlinear fashions, sites that grow over time, accreting histories of their own.

Initially as a graduate student in the architecture program at MIT and later as a faculty member in the same department, Negroponte sought to create an “architecture machine” to help architects design buildings. Inspired, to some degree, by Ivan Sutherland’s Sketchpad design interface, Negroponte hoped his architecture machine would be an active partner in helping architects design buildings. As he explained at the time, this would allow architects to deal not only with problems of great complexity that exceed their grasp but also with trivial problems of everyday construction they might feel are too boring to pursue. The Architecture Machine would be intelligent, capable of learning and able to understand human idiosyncrasies such as hand gestures.

The vision of the architecture machine was never fully realized, but in the process the group developed key user interface ideas, some commonly used today and others still anticipating future technological developments. The Spatial Data System, or “Dataland,” and its “Put-That-There” interface by Negroponte and Richard Bolt demonstrated the utility of spatial forms of organization as mnemonic and navigational tools while pioneeering the use of icons and graphic desktop utilities such as calculators, calendars, and telephones. Bill Atkinson, one of the designers of the Mac interface recalls that on a visit to the Architecture Machine Group, he discovered this interface and used it as the basis for the Mac desktop metaphor and spatial finder. The Aspen Movie Map, in which a videodisk was produced to capture every block in the city of Aspen at multiple times, anticipated Amazon's A9.com urban mapping project, although in depth and flexibility it still exceeds any commonly available interface. Similarly, a follow-up to the Aspen project, the Movie Manual, anticipated the web and the CD-ROM interface, providing a rich hypermedia experience. Other pioneering work of the Architecture Machine Group includes anti-aliased text, sophisticated telepresence research, and online personal news aggregators.

If the Architecture Machine Group did not directly produce a machine that could design buildings, its ultimate accomplishment was far more significant, for the group’s research turned the computer into a spatial machine, a legacy that lasts to this day. Into the early 1980s computers had been dominated by textual interfaces. At the Architecture Machine Group, a spatial metaphor for the graphic user interface was adopted not merely for localized applications such as Sketchpad but as an essential means of interacting with the computer on all levels. In doing so, the Architecture Machine Group made the computer accessible to all but while fostering creativity and design as part of the everyday experience. This was Negroponte’s intention all along. Inspired by Bernard Rudofsky’s 1964 book *Architecture Without Architects,* a book of fantastic built works made by primitive people, amateurs, and even animals that appeared far richer than any works produced by architects then or now, the Architecture Machine Group created machines that spread creativity from the *avant-garde* to the everyday.

PROJECT TEAM

Kazys Varnelis, Project Director, Editor and Moderator

Architectural historian Kazys Varnelis is ideally situated as the author for this project. With a Ph.D. in history and theory of architecture and urbanism from Cornell University, he is an expert in the architecture of the last forty years, has published widely on the topic, is senior lecturer at the University of Limerick, Ireland, and has taught at the Southern California Institute of Architecture, University of Pennsylvania, University of Southern California, and Art Center College of Design. He is increasingly pursuing the history and theory of digital culture and is spending 2005-2006 at the Annenberg Center for Communication as a research fellow writing a book on the impact of telecommunications on the city since 1960 and, together with anthropologist Mimi Ito, leading the Networked Publics faculty research group to produce a collaboratively written book on how recent changes in telecommunications and media ecologies are reshaping contemporary life. He has maintained a web site since 1996 and a blog since 2000. His new media architecture group, AUDC has been featured in on-line exhibits at Rhizome.org, interviewed at turbulence.org and is publishing a book of its research, originally developed collaboratively on a private wiki, in fall of 2006. He is well versed in site design, HTML, wikis and the Drupal content management system. As a result, he has the capacity to survey the wide breadth of material necessary for understanding the Architecture Machine Group as well as to contribute to both the design and implementation of the project.

Bob Stein, Co-Director and Co-Editor

Robert Stein is the director of the Institute for the Future of the Book. The institute, based at the University of Southern California has two principal activities. one is building high-end tools for making rich media electronic documents (part of the Mellon Foundation's higher-ed digital infrastructure initiative) and the other is exploring and hopefully influencing the evolution of new forms of intellectual expression and discourse. Previously Stein was the founder of The Voyager Company where over a 13-year period he led the development of over 300 titles in The Criterion Collection, a series of definitive films on videodisc, and more than 75 CD ROM titles including the CD Companion to Beethoven's Ninth Symphony, Who Built America, and the Voyager edition of Macbeth. Previous to Voyager, Stein worked with Alan Kay in the Research Group at Atari on a variety of electronic publishing projects. Seven years ago, Stein started Night Kitchen to develop authoring tools for the next generation of electronic publishing.

Rebeca Mendez, Design

Currently the head of UCLA’s Design Dept, Rebeca Mendez is one of the most highly regarded designers of complex information spaces in the U.S.

DELIVERABLES

This project will be the first thoroughly realized networked book, produced online with contributions from the individuals involved and the public at large. Video from the *Discursions* laserdisc will be accompanied by multiple track voice-overs. The narrative will be both linear and non-linear, readable in traditional form from beginning to end as a book—indeed, we expect that in this form the book will be published by a major university press—but also as a non-linear networked book.

We believe that "the book" as a concrete form is already over, an intriguing artifact of a transitional period. We propose the networked book as an evolving model by which texts are embedded within an intelligent conversation. A fluid artifact akin to the oral tradition, the book will grow over time, accreting comments and links from readers. As such the networked book lends itself ideally to the subject, which are at the core of a substantial debate, despite the fact that no major work has yet been written on the Architecture Machine Group. Comments from individuals involved in Architecture Machine Group as well as interested readers will grow over time.

SCHEDULE

September-October 2006
Planning and Design; Interview key participants from one experiment on the Discursions Disc; use this material to inform overall design of project

November, 2006 - February, 2007
Build book engine, Continue Interviewing

March-June 2007
Continue Interviewing, Open book to the public, soliciting comments and links

July-August 2007
Fine tune process of soliciting, editing, and moderating content

Fall 2008
Publish print version

BUDGET

Project Director (Kazys Varnelis)	$50,000	1/2 of salary; balance to be contributed by the Annenberg Center for Communication
Designer (Rebeca Mendez)	$10,000	
Videographer	$10,000	
Programming	$15,000	
Travel	$12,000	15 trips at $800 each to interview major participants
Phone + miscellaneous costs	$2,400	
Contingency	$5,000	
TOTAL	**$104,000**	